

#### REMARKS

With this response, claims 1-5 and 7-20 are pending in this application. Claims 1, 11, and 19 are currently amended. Support for these amendments is found in paragraph [0029] of Applicants' as-published application. No new matter is added. Claim 1 was also amended to correct an inadvertent typographical error to change the word "suicide" to the word "silicide". Support for this amendment is found in as-published paragraph [0009]. No new matter is added. Claim 6 is cancelled without prejudice.

The Office Action has rejected claims 1-20. Applicants request that the Examiner reconsider claims 1-5 and 7-20 based on the following remarks and arguments.

#### *Claim Rejections – 35 USC § 112*

Claims 3-6 were rejected in the Office Action, because the claimed particle sizes appear from the disclosure to be directed to the starting materials not the final compact. Applicants cancel claim 6 without prejudice.

Applicants maintain that claims 3-5 are directed to the final compact. Applicants point to as-published paragraph [0018], where Applicants disclose grain sizes in the sintered compact. When referring to cBN in the sintered compact, Applicants use the terms "grain size" and "particle size" interchangeably (see for example paragraph [0018]). This is further substantiated in that Applicants herein amend independent claims 1, 11, and 19 to an embodiment of a sintered compact "wherein the cBN particles have less than 20% of grain-to-grain bonding contact". This amendment is supported in as-published paragraph [0029], and FIG. 1, which is an SEM image of a sintered compact. Since Applicants use "grain size" and

"particle size" interchangeably when referring to cBN throughout the instant Application, Applicants submit that claim 3 is in condition for allowance, and request withdrawal of the rejection of claim 3.

Applicants note that claims 4 and 5 refer to non-aluminum binder materials as disclosed in as-published paragraph [0023], and that there are no limitations to particle or grain size in claims 4 and 5. Applicants maintain that the materials of claims 4 and 5 are present in the sintered compact, as disclosed in paragraph [0023]. Applicants also disclose a grain size of non-aluminum binder in paragraph [0023], and a person having ordinary skill in the art understands that grain size in a metallurgical context refers to the size of crystallites in a polycrystalline material. The grain sizes referred to in paragraph [0023] are crystallite sizes of the non-aluminum binder material in the sintered compact. Applicants submit that claims 4 and 5 are in condition for allowance, and request that the Examiner withdraw the rejections to claims 4 and 5.

***Claim Rejections under 35 USC 102(b) or 35 USC 103(a) over Japanese Document 01-122971***

The Office Action rejects claims 1-20 under 35 U.S.C. 102(b) as anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese document 1-122971. Applicants respectfully disagree. Applicants have amended each of independent claims 1, 11, and 19 to include a limitation similar to "wherein the cBN particles have less than 20% of grain-to-grain bonding contact". This limitation is not disclosed in the English abstract of JP 01-122971. This limitation would also not be inherent in the sintered material of JP 01-122971, since this structural limitation would depend upon how the starting materials for a sintered body are processed, and processing conditions are not provided in the English translation of the

Japanese abstract. There is no indication in the JP 01-122971 abstract of how the starting mixtures are processed, as is provided in as-published paragraphs [0028], [0029], and [0034] of Applicants' specification. The JP 01-122971 abstract does not discuss "*wherein the mixture is at least substantially homogeneous*", as in Applicants' claim 11 (emphasis added). Without these conditions, it is not obvious or inherent that a sintered compact with the claimed compositions would have less than 20% grain-to-grain bonding contact, as claimed by Applicants. Applicants submit that independent claims 1, 11, and 19 are in condition for allowance, and request withdrawal of the rejections of claims 1, 11, and 19.

Claims 2-5 and 7-10 depend from and add further limitations to independent claim 1. Claims 12-18 depend from and add further limitations to independent claim 11. Claim 20 depends from independent claim 19. Dependent claims 2-5, 7-10, 12-18, and 20 encompass all of the limitations of their respective independent claims, which are in condition for allowance. Accordingly, claims 2-5, 7-10, 12-18, and 20 are allowable for at least the same reasons in connection with independent claims 1, 11, and 19, and Applicant respectfully requests withdrawal of the rejections of claims 2-5, 7-10, 12-18, and 20.

In addition, the Office Action relies on the Japanese language specification as part of the claim rejections of 1-20. Because the text is in Japanese, Applicants are not clear as to the precise facts that the Office Action is relying on to make the claim rejections. According to the MPEP, "(i)f the document is in a language other than English and the examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the examiner is relying upon in support of the rejection. ... Because all patentability determinations are fact dependent, obtaining and considering full text documents at the earliest practicable time

in the examination process will yield the fullest available set of facts upon which to determine patentability, thereby improving quality and reducing pendency. When both the abstract and the underlying document qualify as prior art, the underlying document should normally be used to support a rejection.<sup>1</sup>

Applicants respectfully submit that the facts that the Office Action is relying on to make the rejections to claims 1-20 are not clear, since they are based on pulling numbers out of context from the Japanese language specification. Applicants request that the rejections to claims 1-20 be withdrawn due to reliance on a Japanese language document for rejecting claims, lack of an English translation of JP 01-122971.

***Claim Rejections under 35 USC 102(b) or 35 USC 103(a) over Japanese Document 60-176973***

The Office Action rejects claims 1-20 under 35 U.S.C. 102(b) as anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese document 60-176973.

Applicants respectfully submit that all of the amendments and arguments presented hereinabove for refuting claim rejections based on JP 01-122971 equally apply to refute claim rejections based on JP 60-176973. Applicants have amended each of independent claims 1, 11, and 19 to include the limitation similar to “wherein the cBN particles have less than 20% of grain-to-grain bonding contact”. This limitation is not disclosed in the English abstract of JP 60-176973. Inherency is also not a basis for rejection, since all that is disclosed in the English language abstract is that the composition is shaped by sintering prior to sintering, and does not discuss “***wherein the mixture is at least substantially homogeneous***”, as in Applicants’

---

<sup>1</sup> MPEP, Eight Edition, Incorporating Revision No. 9, § 706.02(1)

claim 11 (emphasis added). Without an English translation of JP 60-176973, Applicants are not clear as to the precise facts that the Office Action is relying on to make the claim rejections.<sup>2</sup>

Applicants submit that independent claims 1, 11, and 19 are in condition for allowance, and request withdrawal of the rejections of claims 1, 11, and 19 based on all of the arguments presented hereinabove for rejections based on JP-0122971 and JP-60176873. Claims 2-5 and 7-10 depend from and add further limitations to independent claim 1. Claims 12-18 depend from and add further limitations to independent claim 11. Claim 20 depends from independent claim 19. Dependent claims 2-5, 7-10, 12-18, and 20 encompass all of the limitations of their respective independent claims, which are in condition for allowance. Accordingly, claims 2-5, 7-10, 12-18, and 20 are allowable for at least the same reasons in connection with independent claims 1, 11, and 19, and Applicant respectfully requests withdrawal of the rejections of claims 2-5, 7-10, 12-18, and 20.

***Claim Rejections under 35 USC 102(b) over Japanese Document 56-112438***

The Office Action rejects claims 1-4, 9-13, 18-20 under 35 U.S.C. 102(b) as anticipated by Japanese document 56-112438.

Applicants respectfully submit that all of the amendments and arguments presented hereinabove for refuting rejections based on each of the cited references previously discussed equally apply to JP 56-112348. Applicants submit that independent claims 1, 11, and 19 are in condition for allowance, and request withdrawal of the rejections of claims 1, 11, and 19 based on all of the arguments presented hereinabove for rejections based on each of the cited

---

<sup>2</sup> *Id*

references previously discussed. Claims 2-4 and 9-10 depend from and add further limitations to independent claim 1. Claims 12 and 13-18 depend from and add further limitations to independent claim 11. Claim 20 depends from independent claim 19. Dependent claims 2-4, 9-10, 12, 13-18, and 20 encompass all of the limitations of their respective independent claims, which are in condition for allowance. Accordingly, claims 2-4, 9-10, 12, 13-18, and 20 are allowable for at least the same reasons in connection with independent claims 1, 11, and 19, and Applicant respectfully requests withdrawal of the rejections of claims 2-4, 9-10, 12, 13-18, and 20.

***Claim Rejections under 35 USC 102(b) or 35 USC 103(a) over Japanese Document 63-33540***

The Office Action rejects claims 1-20 under 35 U.S.C. 102(b) as anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese document 6333540.

Applicants respectfully submit that all of the amendments and arguments presented hereinabove for refuting rejections based on each of the cited references previously discussed equally apply to JP 63-33540. Applicants submit that independent claims 1, 11, and 19 are in condition for allowance, and request withdrawal of the rejections of claims 1, 11, and 19 based on all of the arguments presented hereinabove for rejections based on each of the cited references previously discussed. Claims 2-5 and 7-10 depend from and add further limitations to independent claim 1. Claims 12-18 depend from and add further limitations to independent claim 11. Claim 20 depends from independent claim 19. Dependent claims 2-5, 7-10, 12-18, and 20 encompass all of the limitations of their respective independent claims, which are in condition for allowance. Accordingly, claims 2-5, 7-10, 12-18, and 20 are allowable for at least

the same reasons in connection with independent claims 1, 11, and 19, and Applicant respectfully requests withdrawal of the rejections of claims 2-5, 7-10, 12-18, and 20.

***Claim Rejections under 35 USC 102(b) or 35 USC 103(a) over Japanese Document 9-15771***

The Office Action rejects claims 1-20 under 35 U.S.C. 102(b) as anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese document 9-15771.

Applicants respectfully submit that all of the amendments and arguments presented hereinabove for refuting rejections based on each of the cited references previously discussed equally apply to JP 9-15771. Applicants submit that independent claims 1, 11, and 19 are in condition for allowance, and request withdrawal of the rejections of claims 1, 11, and 19 based on all of the arguments presented hereinabove for rejections based on each of the cited references previously discussed. Claims 2-5 and 7-10 depend from and add further limitations to independent claim 1. Claims 12-18 depend from and add further limitations to independent claim 11. Claim 20 depends from independent claim 19. Dependent claims 2-5, 7-10, 12-18, and 20 encompass all of the limitations of their respective independent claims, which are in condition for allowance. Accordingly, claims 2-5, 7-10, 12-18, and 20 are allowable for at least the same reasons in connection with independent claims 1, 11, and 19, and Applicant respectfully requests withdrawal of the rejections of claims 2-5, 7-10, 12-18, and 20.

**CONCLUSION**

Applicants and Applicants' representatives assert that the pending claims are in condition for allowance and respectfully request that this case be passed to issue. Should the Examiner have any questions or feel that a conversation with Applicants' representative would advance prosecution, he is encouraged to contact the undersigned at his convenience.

A fee for a two-month extension of time is included with this submission. To the extent that additional fees may be required for this response, the Commissioner is hereby authorized to debit Deposit Account 50-0436.

Respectfully submitted,  
PEPPER HAMILTON LLP

A handwritten signature in black ink, appearing to read "Gary A. Nitowski". The signature is fluid and cursive, with the first name "Gary" and last name "Nitowski" clearly distinguishable.

Gary A. Nitowski  
Registration No. 52,497

One Mellon Center, 50th Floor  
500 Grant Street  
Pittsburgh, PA 15219-2505  
Telephone: (412) 454-5000  
Facsimile: (412) 281-0717  
Date: March 17, 2008